Listing of Claims:

1-15. (Canceled)

16. (Previously presented) An isolated polypeptide comprising an amino acid sequence, which consists of a sequence from residue 441 to residue 676 as set forth in SEQ ID NO:2, wherein the polypeptide catalyzes oxidation of o-dianisidine (ODA) when complexed with a vanadium ion, has at least 80% amino acid sequence identity to a polypeptide as set forth in SEQ ID NO:2, and has a molecular weight of between about 40 to about 60 kDa.

17-19. (Canceled)

20. (Original) The isolated polypeptide of claim 16, wherein the polypeptide has a molecular weight of about 58 kD.

21. (Original) The isolated polypeptide of claim 16, wherein the polypeptide has a molecular weight of about 40 kD.

22. (Original) The isolated polypeptide of claim 16, wherein the polypeptide is immobilized on a solid surface.

23. (Original) The isolated polypeptide of claim 16, wherein the polypeptide further comprises a cleavable linker sequence.

24. (Original) The isolated polypeptide of claim 23, wherein the cleavable linker sequence is an enterokinase cleavable linker sequence.

25. (Original) The isolated polypeptide of claim 16, wherein the polypeptide further comprises an epitope tag.

26. (Original) The isolated polypeptide of claim 25, wherein the epitope tag comprises a plurality of histidine residues.

27. (Original) The isolated polypeptide of claim 16, wherein the polypeptide further comprises a thioredoxin sequence.

28. (Original) A method for enzymatically halogenating a compound, the method comprising contacting the compound with an isolated polypeptide of claim 16.

29. (Original) The method of claim 28, wherein the compound is a protein.

30. (Original) A method for enzymatically oxidizing a compound, the method comprising contacting the compound with an isolated polypeptide of claim 16.